International Student Perceptions of Leadership and Involvement on Campus

THESIS

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By

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Abstract

As the international student population on college campuses has grown over decades, it has become vital that universities improve their understanding of these students' values to better serve their specific needs. In this paper, perceptions held by international students regarding involvement and leadership in student organizations will be explored through a survey of undergraduate students at the Fisher College of Business. The objective of this research is to analyze factors that relate to emphasis placed on involvement and leadership by both domestic and international students pursuing business degrees. Specifically, we focus on how involvement in student organizations and on-campus activities may change from high school to college for members of both groups and seek to discover if there is a connection between time spent on leadership and extracurricular activities during high school and engagement with student organizations at university. Using an electronic survey sent via email, we collected data from 858 students at the Fisher College of Business in December of 2017. Hypothesis testing was utilized to compare domestic and international students as well as the change in individuals' values from high school to college. Results show that the two groups place significantly different value on involvement and leadership in high school, with domestic students reporting higher overall importance. However, these differences diminish from high school to college with the two groups converging to hold more similar values once at university. This change was found to be statistically significant with four paired t-tests targeting values of involvement and leadership.

Dedication

For my parents, Mike and Patti, whose support has enabled me to grow into the person I am today, and my sister, Stephanie, who is not only my best friend but also an excellent role model. We are a small but mighty family, and without you three I would never have had the courage to dive into leadership and involvement at Ohio State.

Acknowledgments

Reflecting on the person I was when I first stepped foot onto campus four years ago has led me to the revelation that there are many individuals who merit thanks for the huge impact they have had on this thesis as well as myself personally, academically, and professionally. I first would like to thank Dr. Roger Bailey for his support over the past two years and for bringing energy and enthusiasm to our classroom every week. His commitment to our class of Honors Contract students and helpful advice has kept me motivated throughout the process of writing this thesis, and I am especially grateful for the extra time he spent with me as I prepared my grant application and presentation for the Fisher Leadership Initiative. I also thank Dr. John Gray, who has not only served as an excellent content advisor but has also been a great mentor to look up to as I prepare to start my career with Procter & Gamble. Dr. Gray's insights into survey design and hypothesis testing as well as his willingness to provide candid feedback on my numerous drafts greatly improved the quality of this thesis. The third individual to whom I owe a huge debt of gratitude is my wonderful honors academic advisor, Kim Bader. From being her student in business survey (BA1100H) as a freshman to having the pleasure of working alongside her in teaching that same survey class senior year as a peer advisor, Kim has served as an incredible source of support and advice throughout my time in the Honors program.

I am also extremely grateful to have the support of the Fisher Leadership Initiative, which provided funding that went towards raffle prizes that increased our survey response rate. I've been honored and humbled to be a grant recipient alongside researchers who are doing incredible work to better our campus and the greater Columbus community. Lastly, I would like to thank the friends I have made in our Honors classes for their help with peer-reviews and for their support throughout this two-year long process. I have been involved in numerous student organizations and held leadership positions

at different times during my four years at Ohio State, but the Honors & Scholars community has been one constant throughout my time that I am extremely proud to have been part of.

Being involved on a campus as large as ours requires stepping out of one's comfort zone while having the courage to apply for an executive board requires more of a leap. As an eighteen-year old moving into Siebert Hall, I didn't consider myself a leader and I certainly never would've called myself a researcher. However, my passion for learning about Chinese culture and my appreciation for those who pushed me to dive out of my comfort zone and become a leader on campus led me to this thesis, and I hope that in turn it will lead to the empowerment of others who are looking for their place at Ohio State.

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Introduction

As the number of international students attending American universities has increased 85% from 2007 to 2017, an increasing body of research in higher education has been devoted to understanding how to best acclimate these students to US culture, what methods most effectively teach them, and how to ensure their success both in college and after graduation (IEE Open Doors Data, 2017). Literature reviewed on this topic explores the international student experience at university and focuses on factors related to both academic and personal success. Currently, there exists a gap in the literature regarding the value placed on leadership and involvement. Given that involvement in student organizations can provide undergraduate students the opportunity to gain valuable leadership experience while engaging with peers, we fill this gap by inquiring about the values that students hold related to the importance of involvement on campus and leadership in student organizations. Gaining this perspective is crucial to the success of any large public university seeking to recruit and retain new students from a diverse set of backgrounds. All students have the potential to make unique contributions to their campus environment and grow to be leaders in their respective fields, but is it possible that one's cultural and educational background feeds into their desire or ability to become involved? We seek to answer this question through a study conducted at the Max M. Fisher College of Business at The Ohio State University.

Zhao, Kuh, and Carini's 2005 study compares international and domestic students in a similar way to this paper's methodology, but we extend the scope of their research to include high school experiences with involvement and leadership as a possible indicator of subsequent involvement while at university. We focus on preconceived notions and core values of international students regarding the importance of involvement outside of the classroom and attaining leadership roles. This category is

often included in studies that explore international student experiences on campus, but we seek to dig deeper into what barriers may exist in the involvement and leadership space on campus by developing our understanding of what international students value and where they choose to allocate their time.

Literature Review

In seeking to better understand the present campus climate surrounding international student involvement and leadership, it is important to first step back to the origins of international exchange between countries. The first educational exchange between the United States and an Asian country occurred in 1854, when Yung Wing became the first Chinese person to attend and graduate from a university in the United States. In the 164 years following this milestone, the number of international students studying in the United States has ballooned to over one million in 2017 with students from China and India composing about half of the overall international student population (IIE Open Doors Data, 2017). Although for decades this number was increasing across the country, from 2016 to 2017 the Institute of International Education (IIE) found that new international student enrollment *decreased* by 3 percent from the previous year. This escalated to a 7 percent drop in average new student enrollment with the Fall 2017 incoming class among universities surveyed by IIE. At The Ohio State University's main campus, international students account for 6,399 of 59,837 students (10.69%) enrolled in Autumn 2017 (The Ohio State University Statistical Summary, 2017). While the overall percentage of international students at Ohio State's main campus remained relatively stagnant from 2016 to 2017, the incoming class of 2017 had a representation of 8% international students, or a decrease of 2.69%.

The term "international student" is defined by Snow as "individuals enrolled in institutions of higher education who are on temporary student visas and are non-native English speakers (NNES)". These students provide universities with higher tuition revenues and the opportunity to develop a more culturally diverse campus. Andrade's 2006 paper explored the various contributions of international students on American campuses, from tuition premiums to cultural diversification. He found that many Canadian universities rely on revenue from international tuition to keep in-state tuition and other

program fees low. Consequently, universities' revenue streams would be negatively impacted if the downward trend of international student enrollment continues. The fear of this impact is high enough that in their 2018 report, Moody's Investors Service downgraded the revenue growth outlook for the higher education sector in the United States from "stable" to "negative", citing uncertainty surrounding international student enrollment due to ambiguity in the future of U.S. immigration policies as an indicator of decreasing revenues (Moody's Higher Education, U.S. 2018 Outlook).

Outside of the substantial revenues that international students bring to universities, NAFSA (2003) found that the contributions made by international students allow for greater understanding of issues related to diversity and globalization. For business students specifically, attending a school with a culturally diverse population has been shown to provide valuable advantages regarding cross-cultural relations in the workplace (Probst et. al 1999, Calleja, 2000). Despite these valuable contributions, often the international students themselves find difficulty adjusting to American culture and are not given adequate resources necessary to succeed at university (Lin and Betz, 2009). This issue is especially prevalent with students who hail from a non-western, non-English speaking country (Andrade 2006). Snow et.al. 2005 also recognized the importance of language and cultural differences when discussing assimilation on campus.

Pusch, in 1979, defined culture as "the sum of total ways of living, including values, beliefs, aesthetic standards, linguistic expression, patterns of thinking, behavioral norms, and styles of communication which a group of people has developed to assure its survival in a particular physical and human environment". As stated previously, culture plays an important role in a student's adjustment to university life. Culture shock is "typically manifested as stress, anxiety, and feelings of powerlessness, rejection, and isolation" (Oberg, 1960). Students from Asia have been found to have the largest cultural

differences compared to the West (Pedersen 1991, 1994, 1997; Poyrazli et al. 2002; Ying & Liese, 1994). Stress during an international student's adjustment process when they first arrive at university has been found to account for 38% of variation in stress, with language barriers being the most significant contributor to this stress (Hazen et al., 2006). Hazen and Alberts also found that a student's self-perceived language abilities have more of an impact on their adjustment outcome than actual language abilities, suggesting that the confidence a student has can either contribute to or detract from their ability to adjust.

Regarding coping mechanisms for dealing with culture shock, Zhao found that friendship networks are critical in how international students deal with stress. This study found that international students have prefer making friends from their same country, but those who become friends with more Americans tend to adjust more easily (Zhao et al., 2005). This socialization with domestic students has been proven to benefit both parties, but not all interactions between domestic and international students have been positive. For Asian students specifically, cases of discrimination and racial microaggression on North American campuses have been studied for decades, with a 2014 study reporting that nine out of twelve international students of Asian descent identified feeling "excluded and avoided" as typical occurrences on campus (Houshmand et al., 2014).

From a young age, the educational experience of international students is in many cases vastly different than that of their domestic peers, and this disparity may lead to different levels of engagement with extracurricular activities both in high school and at university. In mainland China, for example, life as a student revolves heavily around examinations and has been described by one New York Times writer as the "three-point life" of *home-school-home* (Kristofk, 2011). This lifestyle is seen as necessary for success on the *Gaokao*, China's extremely competitive college entrance exam (Qi, 2004). The

impact of this focus is that Chinese high schoolers spend significantly more time in the classroom than their American counterparts, leading to less available time to engage in extra-curricular activities such as organized sports or student government (Fuligni, 1995). In India, parents' "high educational expectations and pressure for academic achievement" have been documented as the primary cause of anxiety for students (Deb, 2001). Like China, India's college entrance examination score is heavily weighted in the admissions process and there are less spots at Indian and Chinese universities than there are students seeking enrollment. These factors heighten the pressure to excel within the classroom in high school and may limit a student's ability to engage in activities outside the classroom.

Zhao, Kuh, and Carini (2005) argue that because of growing diversity in US, an important goal of higher education should be to prepare culturally competent individuals who can work with others from different backgrounds. Given the many challenges facing international students and the financial dependence that many universities have developed on their heightened tuition revenues, it is crucial that universities invest in better understanding the experiences and values of these students. Involvement in student organizations provides international students an organic opportunity to engage with their peers while helping them develop as leaders, and universities that help to foster this growth and develop a reputation for inclusivity may be able to attract and retain more international students.

Hypotheses

The overarching hypothesis of this research is that the value that international students place on becoming involved in student organizations and obtaining leadership positions differs from domestic students due to a combination of high school experiences, language barriers, and cultural differences. This was segmented into two overall categories: high school values and values at Ohio State. To test each hypothesis, numerous two-sample t-tests were conducted to determine if there is a significant difference among international and domestic populations based on their respective responses to a 24-question survey (see appendix A for survey). This model follows the approach set forth by Zhao, Kuh, and Carini's 2005 paper "A Comparison of International Student and American Student Engagement in Effective Educational Practices."

Because all students surveyed attend the same college, terminology about Fisher-specific student organizations was included to achieve a higher level of understanding. Additionally, this research recognizes that in both high school and college students often must face "trade-offs" between time spent on involvement, classwork, and test preparation; as a result, questions relating to various factors were included. This was done purposefully to see if there is any significant difference between time spent on academic versus involvement activities. See below for a summary of each hypothesis. Hypotheses one through seven relate specifically to high school values, while eight through twelve discuss values while in college.

Hypothesis 1: High School Involvement

H_o =In high school, the value placed on involvement is THE SAME for both domestic and international students

H_a=In high school, the value placed on involvement is DIFFERENT for domestic and international students

Hypothesis 2: High School GPA

H_o =In high school, the value placed on achieving a high GPA is THE SAME for both domestic and international students
H_a=In high school, the value placed on achieving a high GPA is DIFFERENT for domestic and international students

Hypothesis 3: High School ACT, SAT, or Other College Entrance Exam

H_o =In high school, the value placed on college entrance exam scores is THE SAME for both domestic and international students
H_a=In high school, the value placed on college entrance exam scores is DIFFERENT for domestic and international students

Hypothesis 4: High School Class Difficulty

H_o =In high school, the value placed on taking advanced classes is THE SAME for both domestic and international students
H_a=In high school, the value placed on taking advanced classes is DIFFERENT for domestic and international students

Hypothesis 5: High School Extra-Curricular Activities

H_o =In high school, the value placed on participating in extra-curricular activities is THE SAME for both domestic and international students
H_a=In high school, the value placed on participating in extra-curricular activities is DIFFERENT for domestic and international students

Hypothesis 6: High School Leadership Aspirations

H_o =In high school, the value placed on being a leader among peers is THE SAME for both domestic and international students
H_a=In high school, the value placed on being a leader among peers is DIFFERENT for domestic and international students

Hypothesis 7: University Involvement Importance

H_o =In college, the value placed on participating in being involved in extra-curriculars is THE SAME for both domestic and international students

H_a=In high school, the value placed on being involved in extra-curriculars is DIFFERENT for domestic and international students

Hypothesis 8: University Involvement Importance to Potential Employers

H_o =In college, the perceived value that potential employers place on involvement is THE SAME for both domestic and international students

H_a=In high school, the perceived value that potential employers place on involvement is DIFFERENT for domestic and international students

Hypothesis 9: University GPA Importance

H_o =In college, the value placed on earning a high GPA is THE SAME for both domestic and international students

H_a=In college, the value placed on earning a high GPA is DIFFERENT for domestic and international students

Hypothesis 10: University Involvement Importance

H_o =In college, the value placed on becoming involved is THE SAME for both domestic and international students

H_a=In college, the value placed on becoming involved is DIFFERENT for domestic and international students

Hypothesis 11: University Building Relationships Importance

H_o =In college, the value placed making friends is THE SAME for both domestic and international students

H_a=In college, the value placed on making friends is DIFFERENT for domestic and international students

Hypothesis 12: University Leadership Importance

H_o =In college, the value placed on being a leader is THE SAME for both domestic and international students

H_a=In college, the value placed on being a leader is DIFFERENT for domestic and international students

Methodology

Research Design

The purpose of this survey was to gain insights from Fisher's international students regarding involvement in campus organizations. Students were invited to complete the survey via email, with a raffle prize of twenty $20 Amazon gift cards as an incentive. While their email was collected for the purposes of distributing the gift cards, no other individually identifying information was collected. The survey first asked questions about a student's high school environment before asking the student to rank on individual Likert scales the relative importance that they placed on GPA, being involved in extra-curriculars, taking advanced classes, and being a leader among their peers. Next, students indicated what types of clubs they are or have previously been involved in at Ohio State and Fisher, as well as if they have obtained a leadership role in any of those student organizations. The last section of the survey inquired about general demographic information such as year, gender, home country, native language, and whether a student was an international student.

Sample Size

Fisher College of Business's current undergraduate population at the Columbus campus is 6,627 students, with 16% of the total population being composed of international students (roughly 1,060 students). At a 5% margin of error and confidence level of 95%, the required sample size for the desired level of significance was a minimum of 364 students. If the proportion of survey respondents followed a similar distribution as the overall Fisher student population, 58 international students would've been expected to respond. As we will discuss later, while the overall response rate exceeded the required sample size, the response rate for international students was somewhat lower than anticipated. While the

primary conclusions of the paper are statistically significant, the small number of international students did affect the power of this study. Because of this, more data will need to be collected in the future to validate the international students' responses on a larger scale.

Data Collection Method

Data were collected from both domestic and international students of all ages and class rankings during fall semester. Originally the survey was intended for first and fourth year students to see how student perceptions of involvement and leadership may change over time, following the approach set forth by Shao, Kuh, and Carini's 2005 paper. However, as we will discuss later, the response rate was not high enough when the survey was sent to just first and fourth year students, so it was opened up to the entire Fisher undergraduate student population. They were asked to respond to an online survey inquiring about high school involvement, relative importance placed on different academic and extracurricular areas, and interests in campus involvement. International students have been defined previously as being "individuals enrolled in institutions of higher education who are on temporary student visas and are non-native English speakers (NNES)" (Snow et al. 2005). Although in the survey students were all asked both if they are a domestic or international student and if English is their first language, this paper deviates from this definition. By placing all students who identified as international in the international group, regardless of whether they self-reported as native or non-English speakers, we seek to gain a more inclusive perspective of the overall international student population.

Data Analysis

Results from the survey were analyzed to determine if a significant difference exists between domestic students and international students regarding high school experiences, perceptions about involvement, and hesitations regarding joining student organizations. Twelve two-sample t-tests were run to compare both the domestic and international students, and paired t-tests were utilized in a later analysis to determine if individuals within the groups changed significantly from high school to college.

Data Analysis Method

To test the twelve hypotheses, individual two-sample t-tests were utilized to determine if any significant difference exists between involvement values, experiences, and perceptions of international students compared with domestic American students. Each of the twelve questions had response options listed on a 5-step Likert scale related to the student's attitude toward the variable's importance. Each response on the attitude scale was assigned a numeric value from 1 to 5 (see Appendix B for breakdown of individual question scales). This allowed the attitude scales to be operationalized as interval data. International students were assigned the binary code of 1 while domestic students were assigned a 0. Results from these t-tests can be seen in Appendices C and D. The confidence interval was set at 95%, with any p-value below 0.05 being considered statistically significant.

Paired T-Tests

To test if a significant difference exists between students' values in high school and college, paired t-tests were utilized using the questions from Hypotheses 1, 6, 10, and 12. Domestic and

international students were separated into two groups, and their responses were converted to a numeric value (see previous section for Likert scales). The confidence interval for paired t-tests was set at 95%, with any p-value below 0.05 being considered statistically significant.

Results

An online Qualtrics survey was sent out to students at the Columbus campus via a list-serve provided by the Undergraduate Business Council. The survey was sent through email to all first and fourth year students, with a random drawing of gift cards as an incentive to encourage a higher response rate. After the survey was sent out initially, 456 total responses were recorded by first and fourth year students. Unfortunately, after the first round of emails were sent out only 15 responses were from international students, greatly limiting the significance of any statistical analysis. Further, after removing incomplete or unqualified responses, only 427 domestic and 14 international responses remained. To remedy the situation, another round of emails was sent out to the remaining Fisher undergraduate student population (second, third, and fifth year students). This required a departure from one original aim of the research; to target first and fourth year students specifically to see if values of the two groups differed. After the survey was sent out again to the remainder of the population, 858 total students responded.

The responses were then checked for validity, and consequently 61 individuals were excluded from analysis due to a combination of failure to complete the survey, extremely short survey response time, and not meeting the age requirement for the survey. The sample size met the minimum requirements for a confidence level of 95% and a margin of error of 5%, but the number of international student responses utilized in the data was below the targeted level at 27 valid responses.

Looking at the demographic breakdown of the sample, we observed a higher female response rate than one would expect from the overall Fisher population, which is 40% female. See figure 1 below for the overall gender breakdown. The respondents' academic ranking breakdown aligned somewhat

better with overall population statistics published by Fisher College of Business, although first-year students in the domestic student population had a much higher response rate than their international counterparts (see figure 2 below). This somewhat higher proportion of first year responses may have biased the sample results because students in their first semester at university may hold significantly different values than fourth year students, as Zhao, Kuh, and Carini's 2005 research indicated.

Figure 1. Gender Proportion of Respondents

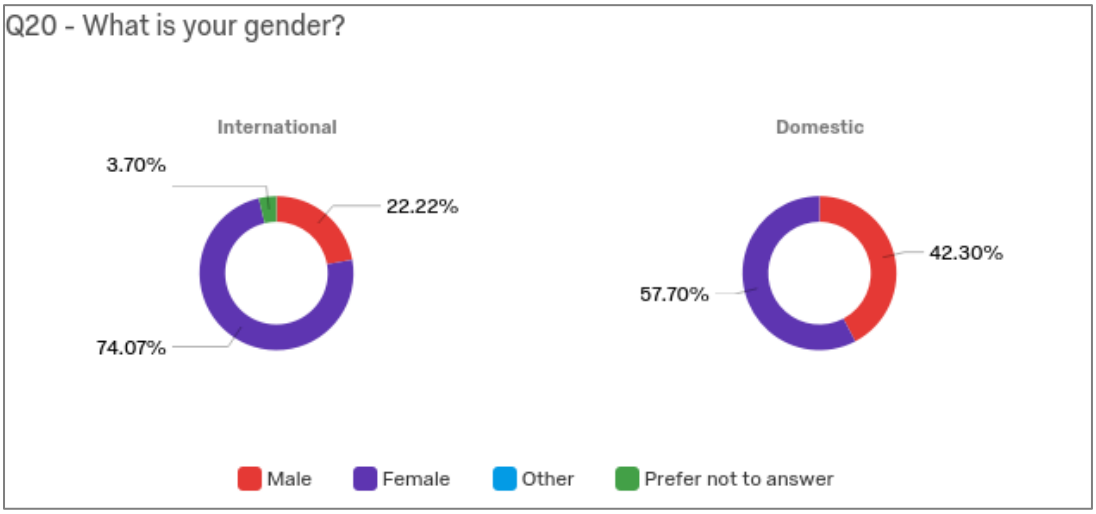
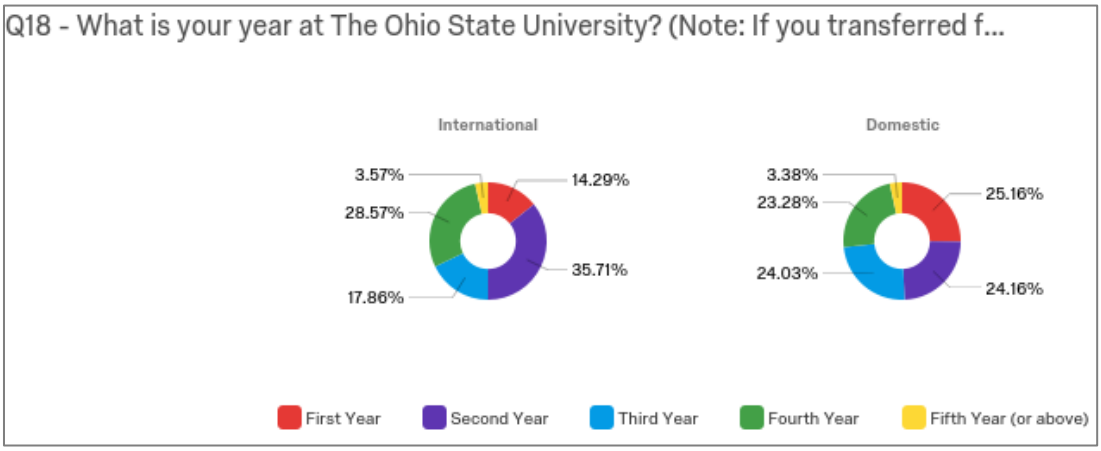
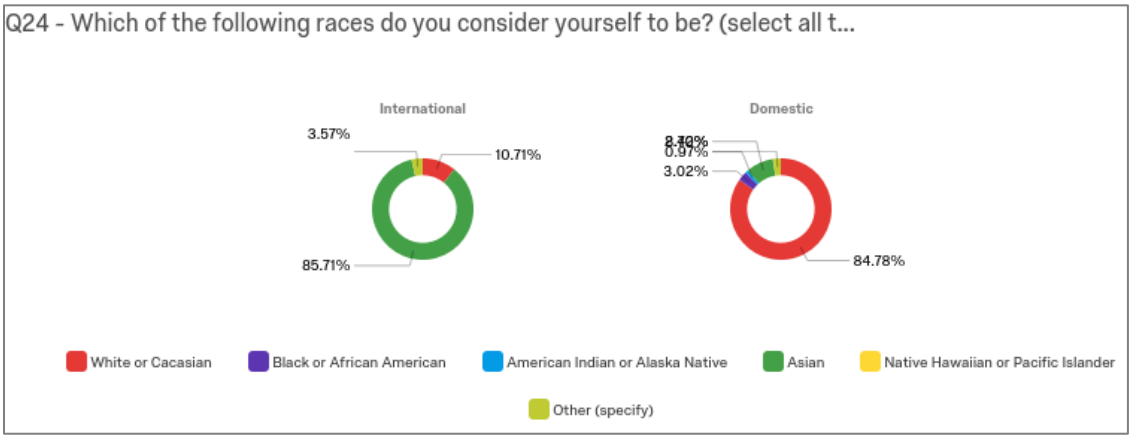


Figure 2. Academic Ranking of Respondents



Students who responded to the survey follow general demographic trends of the Fisher College of Business undergraduate student population, with roughly 86% of international students self-reporting as being from Asian descent, and about 85% of domestic respondents identifying as white or Caucasian (see figure 3 below for entire group). Lastly, the proportion of international students who transferred to Ohio State from another university was much higher than the domestic respondents (60.71% and 13.64%, respectively), as one might predict based on higher overall transfer rates for international students at Ohio State.

Figure 3. Race Proportion of Respondents

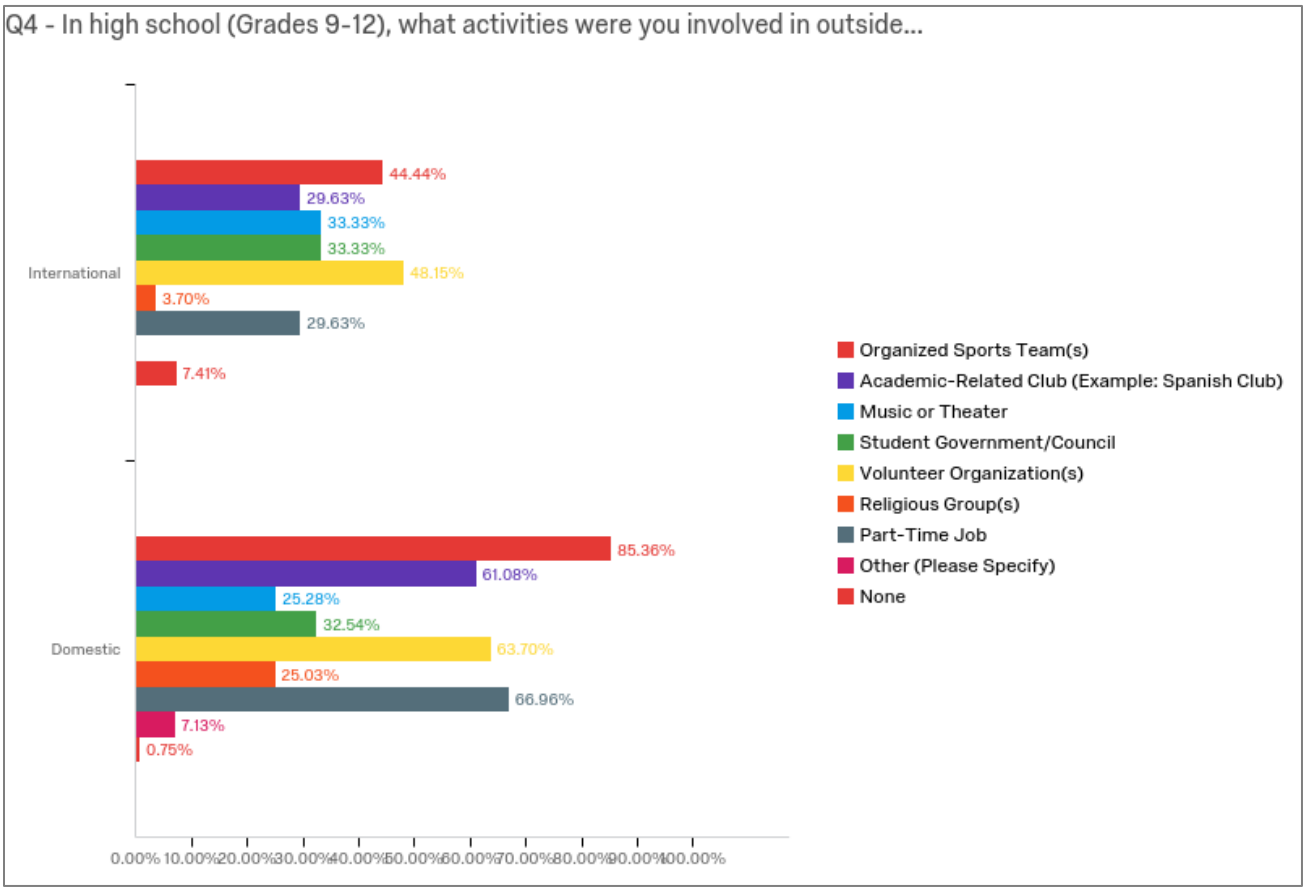


High School Involvement

Moving past demographic trends and into the overall trends from survey results, on the next page is the overall breakdown of student responses for the fourth question, which inquired about involvement in high school. Several interesting trends were immediately apparent, specifically that domestic students averaged almost double the involvement in organized sports teams, academic-related clubs, and part-time jobs. Further, 25% of domestic students were involved in religious groups in high school, almost 22% higher than their international peers. The extent to which involvement in these specific categories

while in high school impacted their choices of involvement in college is unknown, but further research may be able to glean more insights about what specific high school involvements have the greatest correlation with overall leadership and involvement value in college.

Figure 4. High School Involvement Categories



Hypothesis Test Results

Moving forward into hypothesis testing results, the first round of statistical analysis focused on the twelve survey questions that asked specifically about values in high school and at Ohio State. Out of these twelve hypotheses, only four differences were found to be statistically significant. These were found to be significant based on a two-sample t-test and our desired confidence level. While no

hypotheses tests regarding university involvement were found to indicate that a significant difference exists between the values of domestic and international students at the university level, we did note several trends that merit mention. These two areas are discussed separately below. See Appendix C for summarized results of the hypothesis tests and Appendix D for the full outputs of all hypothesis tests.

Hypothesis 1: High School Involvement

Question	Group	N	Mean	StDev	SE Mean	Est. Diff.	T-Value	DF	P-Value
HS-How important was your involvement in high school to you?	Domestic	798	3.98	1.07	0.038				
	Intl.	27	3.15	1.13	0.22				
	Test					0.832	3.76	27	0.001

***Conclusion* 1**: *In high school, the value placed on involvement is DIFFERENT for domestic and international students*

Hypothesis 5: High School Class Difficulty

Question	Group	N	Mean	StDev	SE Mean	Est. Diff.	T-Value	DF	P-Value
In High School (Grades 9-12), how important were the below activities to you? Taking advanced classes	Domestic	798	4.184	0.985	0.035				
	Intl.	27	3.48	1.19	0.23				
	Test					0.703	3.04	27	0.005

Conclusion 2: *In high school, the value placed on taking advanced classes is DIFFERENT for domestic and international students*

Hypothesis 6: High School Extra-Curricular Activities

Question	Group	N	Mean	StDev	SE Mean	Est. Diff.	T-Value	DF	P-Value
In High School (Grades 9-12), how important were the below activities to you? Participating in extra-curricular activities	Domestic	798	4.11	1	0.036				
	Intl.	27	3.33	1.18	0.23				
	Test					0.776	3.38	27	0.002

Conclusion 3: *In high school, the value placed on participating in extra-curricular activities is DIFFERENT for domestic and international students*

Hypothesis 7: High School Leadership Aspirations

Question	Group	N	Mean	StDev	SE Mean	Est. Diff.	T-Value	DF	P-Value
In High School (Grades 9-12), how important were the below activities to you? -Being a leader among my peers	Domestic	797	3.74	1.16	0.041				
	Intl.	27	3.19	1.08	0.21				
	Test					0.551	2.61	28	0.014

Conclusion 4: *In high school, the value placed on being a leader among peers is DIFFERENT for domestic and international students*

Conclusions from the high school section of the survey indicate that while in high school, international and domestic students placed significantly different levels of importance in the areas of involvement, class difficulty, extracurricular activity, and leadership aspirations. For all four tests that were found to be statistically significant, domestic students' responses show that they placed *higher* value on all four areas than their international counterparts. This result is reinforced by other responses of the survey, where domestic students had significantly higher average involvement in extra-curricular activities including volunteer organizations, music or theater, part-time jobs, and student government while in high school. This may also be related to a variety of cultural, socioeconomic, and geographic factors discussed previously in the literature review. Interestingly, one area where domestic and

international students did not show significantly different results was in the importance of college entrance examinations, with domestic students reporting higher, but not statistically significant, overall importance. This diverges from previous independent studies conducted by Qi, Kristofk, and Fuligni.

Convergence of Values

As seen in the above data, the only significant difference between the two groups can be found in their importance weighting of these four different areas in high school. It is important to note that becoming involved or a being a leader was not found to be valued differently by the two groups in college, suggesting that domestic and international students' views on involvement may converge during college years. Further, while the mean importance placed on involvement and leadership from high school to college decreased for domestic students, it increased for international students (see figures 5 and 6 below). This convergence of values was further tested through four paired t-tests, and all were found to be statistically significant. The results of the paired t-tests can be found below in table 5.

Paired T-Test	Sample (Domestic)	N	Mean	StDev	SE Mean	Mean Diff.	T-Value	P-Value
Domestic: Leadership	HS-Being a Leader	793	3.7339	1.1617	0.0413			
	OSU-Being a Leader	793	3.5498	1.135	0.0403			
	Test					0.1841	4.19	0.000
Domestic: Involvement	HS-How important was involvement	797	3.9799	1.0678	0.0378			
	OSU Becoming Involved	797	3.7817	1.0322	0.0366			
	Test					0.1982	4.53	0.000
International: Leadership	HS-Being a Leader	27	3.185	1.075	0.207			
	OSU-Being a Leader	27	3.63	1.115	0.214			
	Test					-0.444	-2.47	0.02
International: Involvement	HS-How important was involvement	27	3.148	1.134	0.218			
	OSU Becoming Involved	27	3.815	1.21	0.233			
	Test					-0.667	-2.55	0.017

Table 5: Paired T-Test Results

Figure 5: Changes in Leadership Value from High School to College

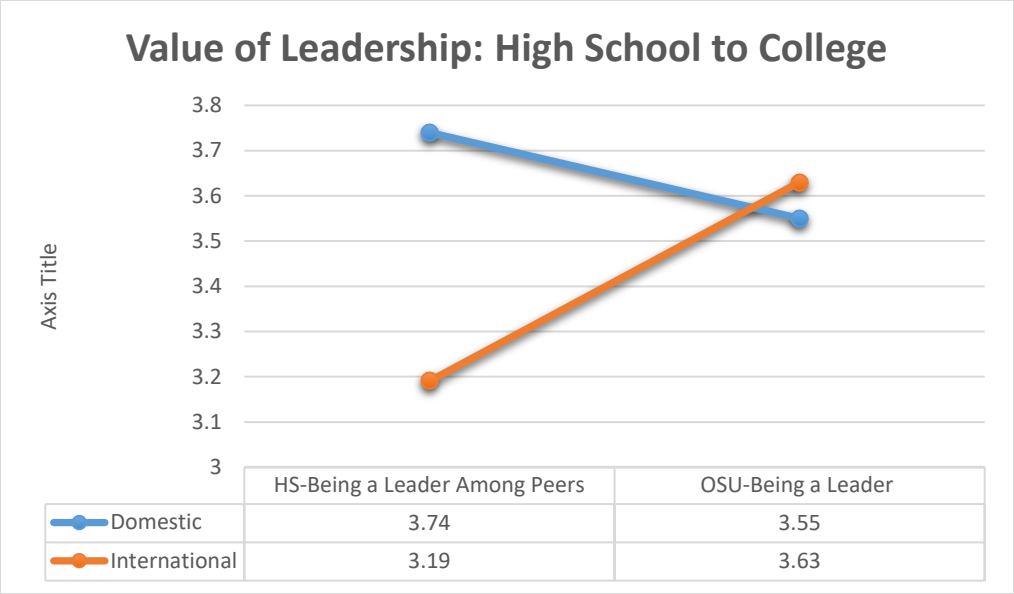
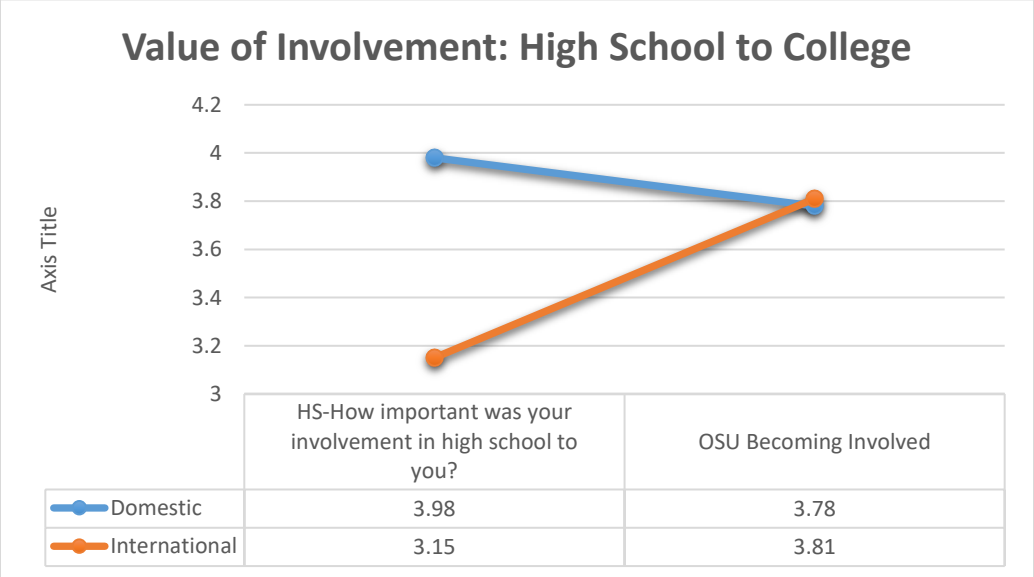


Figure 6: Changes in Involvement Value from High School to College



Another interesting point revealed by the data seen in figures 5 and 6 above is that while in college, international students identified being a leader on campus and becoming involved as *more* important on average than their domestic counterparts. Although this difference between international and domestic students was not found to be statistically significant at university, the heightened interest

in leadership and involvement should be reflected in a higher number of international students participating in and visibly leading student organizations. However, exploratory research revealed that outside of culturally-focused student organizations, the international student population is underrepresented in student organizations and on executive boards at the Fisher College of Business. Moving forward, more research will be necessary to determine what barriers international students may face when seeking out involvement and leadership opportunities, as well as how The Ohio State University can better support these students in their extra-curricular involvement.

Discussion

The analysis revealed that while their values in high school may differ significantly, the value which both international and domestic students place on leadership and involvement evolves from high school to college. Overall, this could also mean that the two groups may not be as different as previous papers have found when one looks at values and the importance placed on involvement while in college.

It is important to qualify these findings with areas where the nature of the data collection method may have caused bias in the data. Some possible factors that may have distorted this data include the low overall percentage of international students, response bias, and the personalities of business students which may vary from the overall campus population. Further, there may be bias introduced by the fact that students were able to opt-out of the research; more involved students may have been more inclined to participate in the study.

Practical Implications & Further Research

The first practical implication of this work is that it indicates statistically what many students may find intuitively to be true; that while enrolled at a university students' values may converge with those around them. This change is most significant among international students, who arguably are experiencing a much larger cultural change than their domestic peers. As a result, it is important that moving forward Fisher College of Business and other colleges at Ohio State work to better understand how convergence of values may impact (or even predict) students' overall assimilation. In a world that is overall growing more culturally diverse, it is crucial that universities work to understand the needs and values of all students in order to better meet them.

Additionally, given the discrepancy between their stated importance of leadership and involvement and their actual involvement in Fisher student organizations, an important next step is to explore how international students choose which student organizations to become involved in, and what their thought process looks like when deciding whether or not to pursue a position on the leadership board of a club. It is possible that in addition to apparent reasons like language barriers, time constraints, or lack of interest; there may be some other yet-to-be discovered motive that could lead to lower overall international student involvement in student organizations at Fisher College of Business.

On a cautionary note, the importance of this work is not as an impetus to generate some form of "call to action" to find ways to coerce international students to join more student organizations or apply for more leadership positions. This mindset would be somewhat paternalistic in nature and possibly not in the students' best interest. Rather, this research could have the biggest impact on both the portion of the international student population who may be interested in joining new student groups as well as the

current leaders of organizations campus-wide who may be looking for ways to be more inclusive to all students. Exploratory research conducted previous to the research collection indicated that some international students prefer to engage with organizations that are composed mainly of other international students. This is reinforced by Zhao's previously mentioned 2005 study that found international students prefer to engage with others from their same home county. As such, members of our international student body who may be primarily involved in culturally focused or internationally dominated student organizations are displaying their value of leadership and involvement already in an environment that is preferable to them, there are just less student organizations that cater specifically to international students.

Nevertheless, as we strive to become a more inclusive campus and provide domestic and international students with more opportunities to engage outside of the classroom, there is always work to be done. In student organizations where students must apply (or be interviewed by peers) to be admitted into the organization, current executive boards could be formally educated on how they can best reach, recruit, and serve international students. This survey could be also extended to include the entire university to give us an opportunity to see if the results of our Fisher survey ring true for other colleges.

Lastly, the subtler but still impactful takeaway from trends observed through this research is that while students may enter into their time at The Ohio State University with vastly different leadership and involvement experiences, as they adjust to campus the two groups have expressed an overall tendency to converge. This behavior should be studied more extensively to determine how Fisher College of Business may differ from other colleges as well as other universities.

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Appendix A. Involvement on Campus Survey

Q1
Welcome to the Research Study!

We are interested in understanding Fisher students' involvement in high school and at Ohio State. You will be presented with information relevant to this topic and asked to answer some questions about it. We will only ask for your email for the purposes of distributing the raffle prizes.

The study should take you under 10 minutes to complete, and you will be entered in a raffle to win one of TWENTY $20 Amazon gift cards for your participation. Your participation in this research is voluntary. You have the right to withdraw at any point during the study, for any reason, and without any prejudice. If you would like to contact the Principal Investigator in the study to discuss this research, please e-mail Roger Bailey at Bailey.117@osu.edu.

By clicking the button below, you acknowledge that your participation in the study is voluntary, you are 18 years of age, and that you are aware that you may choose to terminate your participation in the study at any time and for any reason without prejudice.

o I consent, begin the study (1)
o I do not consent, I do not wish to participate (2)

Q2 Please enter your OSU email below. It will be deleted after raffle winners are drawn
_____

Page Break

Q3 Think back to your life before OSU... what kind of city/town did you live in for a majority of your life?
o Rural Town(not densely populated) (1)
o Suburban Town/City (somewhat populated) (2)
o Urban City (very densely populated) (3)

Q4 In high school (Grades 9-12), what activities were you involved in outside of the classroom? Check all that apply.
▢ Organized Sports Team(s) (1)
▢ Academic-Related Club (Example: Spanish Club) (2)
▢ Music or Theater (3)
▢ Student Government/Council (4)
▢ Volunteer Organization(s) (5)
▢ Religious Group(s) (6)
▢ Part-Time Job (7)
▢ Other (Please Specify) (8) _____
▢ None (9)

Q5 Did you hold any official leadership positions in the above activities?
o Yes, more than one (1)
o Yes, one (2)
o No (3)

Q6 How important was your involvement in high school to you?

- o Extremely important (1)
- o Very important (2)
- o Moderately important (3)
- o Slightly important (4)
- o Not at all important (5)

Q7 In High School (Grades 9-12), how important were the below activities to you?

	Level of Importance				
	Not at all Important (1)	Slightly Important (2)	Moderately important (3)	Very important (4)	Extremely important (5)
Maintaining an high GPA (1)	○	○	○	○	○
Earning a high score on ACT, SAT, or other College Entrance Exam (2)	○	○	○	○	○
Taking advanced classes (3)	○	○	○	○	○
Participating in extra-curricular activities (4)	○	○	○	○	○
Being a leader among my peers (5)	○	○	○	○	○

Q8 Please identify any groups on campus that you are either CURRENTLY involved in or have been involved in in the PAST. Please note that we define active involvement as attending meetings at least once monthly. Check ALL that apply.

	Never Involved (1)	Applied/Rushed But Never Joined (2)	Previously Involved (3)	Currently Involved (4)
Academic/College (1)	○	○	○	○
Awareness/Activism (2)	○	○	○	○
Community Service/Service Learning (3)	○	○	○	○
Creative and Performing Arts (4)	○	○	○	○
Ethnic/Cultural (5)	○	○	○	○
Governace Organizations (6)	○	○	○	○
Honoraries/Honor Societies (7)	○	○	○	○
Media, Journalism, and Creative Writing (8)	○	○	○	○
Professional Fraternities/Sororities (9)	○	○	○	○
Religious/Spiritual (10)	○	○	○	○
Social Fraternities/Sororities (11)	○	○	○	○
Special Interest (12)	○	○	○	○
Sports and Recreation (13)	○	○	○	○
Technology (14)	○	○	○	○

Q9 Please check any below Fisher student organization that you are CURRENTLY involved in, or have been involved in PREVIOUSLY. Please note that active involvement in an organization is defined as attending meetings at least once monthly.

(List of all Fisher Student Organizations currently recognized on fisher.osu.edu websit

Q10 How important is being involved at Ohio State to you?
o Extremely important (1)
o Very important (2)
o Moderately important (3)
o Slightly important (4)
o Not at all important (5)

Page Break

Q11 Have you held a leadership positions in any of the clubs you have been involved in at Ohio State?
o Yes (1)
o No (2)

Q12 If you answered "Yes" to the above question, please indicate the title of the position(s). Check all that apply. If you answered "No" to the above question, select "N/A"
▢ President (1)
▢ Vice President (2)
▢ Treasurer (3)
▢ Secretary (4)
▢ Other (Please Specify) (5) _____
▢ N/A (6)

Q13 How important do you think that leadership is to companies looking to hire students for internships or full time jobs?
o Extremely important (1)
o Very important (2)
o Moderately important (3)
o Slightly important (4)
o Not at all important (5)

Page Break

Q14 How important are the below activities to you here at Ohio State?

	Importance				
	Not at all important (1)	Slightly important (2)	Moderately important (3)	Very important (4)	Extremely important (5)
Maintaining a high GPA (1)	○	○	○	○	○
Making new friends (2)	○	○	○	○	○
Becoming involved on campus (3)	○	○	○	○	○
Being a leader on campus (4)	○	○	○	○	○

Q15 How difficult was it for you to adjust to campus?
- o Extremely easy (1)
- o Moderately easy (2)
- o Slightly easy (3)
- o Neither easy nor difficult (4)
- o Slightly difficult (5)

Q16 How similar do you feel you are to other students on campus?
- o Extremely similar (1)
- o Moderately similar (2)
- o Slightly similar (3)
- o Neither similar nor different (4)
- o Slightly different (5)

Page Break

Q17 What is your age?

_____

Q18 What is your year at The Ohio State University? (Note: If you transferred from another university include that time in your total)
- o First Year (1)
- o Second Year (2)
- o Third Year (3)
- o Fourth Year (4)
- o Fifth Year (or above) (5)

Q19 Did you transfer to Ohio State after studying at another university?
o Yes (1)
o No (2)

Q20 What is your gender?
o Male (1)
o Female (2)
o Other (3)
o Prefer not to answer (4)

Q21 Are you an international student?
o Yes (1)
o No (2)

Q22 What country are you from? If you have lived in multiple countries, choose the one that you identify most with.
(Dropdown List of Countries)

Q23 Do you consider English to be your primary language?
o Yes (1)
o No (2)

Q24 Which of the following races do you consider yourself to be? (select all that apply)
▢ White or Cacasian (1)
▢ Black or African American (2)
▢ American Indian or Alaska Native (3)
▢ Asian (4)
▢ Native Hawaiian or Pacific Islander (5)
▢ Other (specify) (6) _____

Appendix B. Likert Scales

Not at all Important	Slightly Important	Moderately important	Very important	Extremely important
1	2	3	4	5

Extremely easy	Moderately easy	Slightly Easy	Neither easy nor difficult	Slightly difficult
1	2	3	4	5

Extremely similar	Moderately similar	Slightly similar	neither similar nor different	slightly different
1	2	3	4	5

Appendix C. Summarized Results of Hypothesis Tests

Question	Group	N	Mean	StDev	SE Mean	Est. Diff.	T-Value	DF	P-Value
HS-How important was your involvement in high school to you?	Domestic	798	3.98	1.07	0.038				
	Intl.	27	3.15	1.13	0.22				
	Test					0.832	3.76	27	0.001
In High School (Grades 9-12), how important were the below activities to you? - Maintaining High GPA	Domestic	798	4.534	0.793	0.028				
	Intl.	27	4.22	1.01	0.19				
	Test					0.312	1.58	27	0.125
In High School (Grades 9-12), how important were the below activities to you? - High SAT/Exam Score	Domestic	797	4.467	0.778	0.028				
	Intl.	27	4.19	1	0.19				
	Test					0.282	1.45	27	0.16
In High School (Grades 9-12), how important were the below activities to you? - Level of Importance - Taking advanced classes	Domestic	798	4.184	0.985	0.035				
	Intl.	27	3.48	1.19	0.23				
	Test					0.703	3.04	27	0.005
In High School (Grades 9-12), how important were the below activities to you? - Level of Importance - Participating in extra-curricular activities	Domestic	798	4.11	1	0.036				
	Intl.	27	3.33	1.18	0.23				
	Test					0.776	3.38	27	0.002
In High School (Grades 9-12), how important were the below activities to you? - Level of Importance - Level of Importance - Being a leader among my peers	Domestic	797	3.74	1.16	0.041				
	Intl.	27	3.19	1.08	0.21				
	Test		0.55			0.551	2.61	28	0.014
OSU-How Important is Being Involved	Domestic	798	3.54	1.09	0.039				
	Intl.	27	3.52	1.09	0.21				
	Test					0.022	0.1	27	0.92
OSU-Importance to Internships	Domestic	798	4.188	0.837	0.03				
	Intl.	27	4.185	0.879	0.17				
	Test					0.003	0.02	27	0.987
OSU-High GPA	Domestic	797	4.425	0.724	0.026				

	Intl.	27	4.259	0.859	0.17				
	Test					0.166	0.99	27	0.33
OSU-Making New Friends	Domestic	795	4.111	0.95	0.034				
	Intl.	27	3.852	0.77	0.15				
	Test					0.259	1.7	28	0.1
OSU Becoming Involved	Domestic	797	3.78	1.03	0.037				
	Intl.	27	3.81	1.21	0.23				
	Test					-0.033	-0.14	27	0.889
OSU-Being a Leader	Domestic	794	3.55	1.14	0.04				
	Intl.	27	3.63	1.11	0.21				
	Test					-0.083	-0.38	27	0.707

Appendix D. Hypothesis Test Results from Minitab

Two-Sample T-Test and CI: Q6-How important was your ... rnational st

Method

μ_1: mean of Q6-How important was your invol when Q21-Are you an international st = No
μ_2: mean of Q6-How important was your invol when Q21-Are you an international st = Yes
Difference: $\mu_1 - \mu_2$

Equal variances are not assumed for this analysis.

Descriptive Statistics: Q6-How important was your invol

Q21-Are you an international st	N	Mean	StDev	SE Mean
No	798	3.98	1.07	0.038
Yes	27	3.15	1.13	0.22

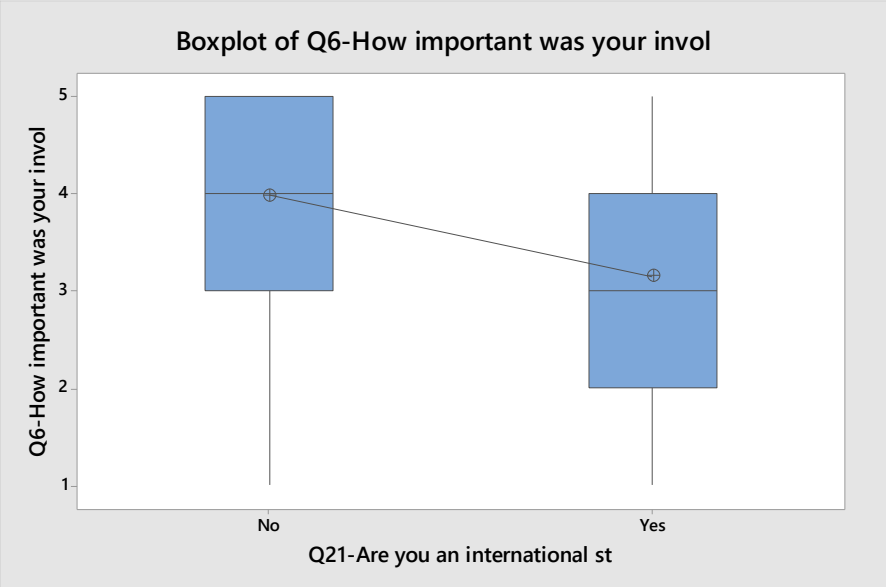
Estimation for Difference

Difference	95% CI for Difference
0.832	(0.378, 1.286)

Test

Null hypothesis $H_0: \mu_1 - \mu_2 = 0$
Alternative hypothesis $H_1: \mu_1 - \mu_2 \neq 0$

T-Value	DF	P-Value
3.76	27	0.001



Two-Sample T-Test and CI: HS-Maintaining High GPA, ... ternational st

Method

μ_1: mean of HS-Maintaining High GPA when Q21-Are you an international st = No
μ_2: mean of HS-Maintaining High GPA when Q21-Are you an international st = Yes
Difference: $\mu_1 - \mu_2$

Equal variances are not assumed for this analysis.

Descriptive Statistics: HS-Maintaining High GPA

Q21-Are you an international st	N	Mean	StDev	SE Mean
No	798	4.534	0.793	0.028
Yes	27	4.22	1.01	0.19

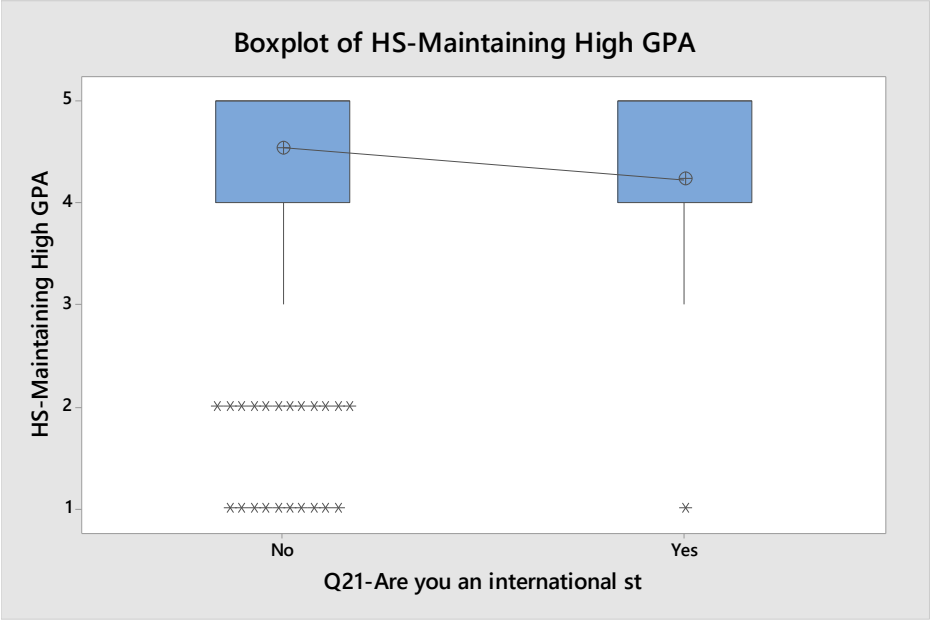
Estimation for Difference

Difference	95% CI for Difference
0.312	(-0.092, 0.716)

Test

Null hypothesis $H_0: \mu_1 - \mu_2 = 0$
Alternative hypothesis $H_1: \mu_1 - \mu_2 \neq 0$

T-Value	DF	P-Value
1.58	27	0.125



Two-Sample T-Test and CI: HS- High SAT/Exam Score, ... ternational st

Method

μ_1: mean of HS- High SAT/Exam Score when Q21-Are you an international st = No
μ_2: mean of HS- High SAT/Exam Score when Q21-Are you an international st = Yes
Difference: $\mu_1 - \mu_2$

Equal variances are not assumed for this analysis.

Descriptive Statistics: HS- High SAT/Exam Score

Q21-Are you an international st	N	Mean	StDev	SE Mean
No	797	4.467	0.778	0.028
Yes	27	4.19	1.00	0.19

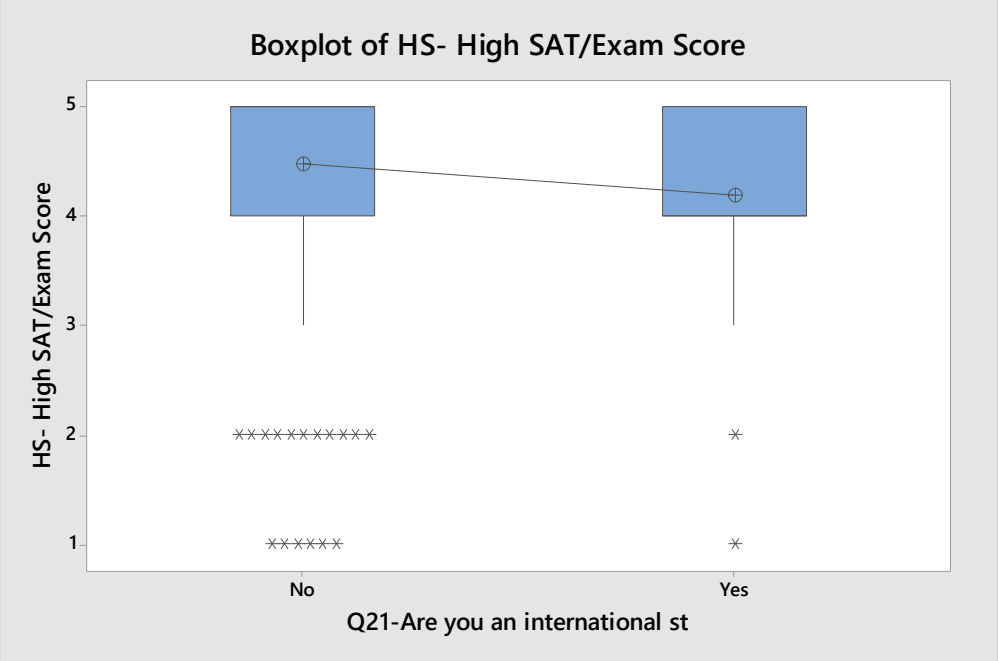
Estimation for Difference

Difference	95% CI for Difference
0.282	(-0.118, 0.681)

Test

Null hypothesis $H_0: \mu_1 - \mu_2 = 0$
Alternative hypothesis $H_1: \mu_1 - \mu_2 \neq 0$

T-Value	DF	P-Value
1.45	27	0.160



Two-Sample T-Test and CI: HS-Advanced Classes, ... an international st

Method

μ_1: mean of HS-Advanced Classes when Q21-Are you an international st = No
μ_2: mean of HS-Advanced Classes when Q21-Are you an international st = Yes
Difference: $\mu_1 - \mu_2$

Equal variances are not assumed for this analysis.

Descriptive Statistics: HS-Advanced Classes

Q21-Are you an international st	N	Mean	StDev	SE Mean
No	798	4.184	0.985	0.035
Yes	27	3.48	1.19	0.23

Estimation for Difference

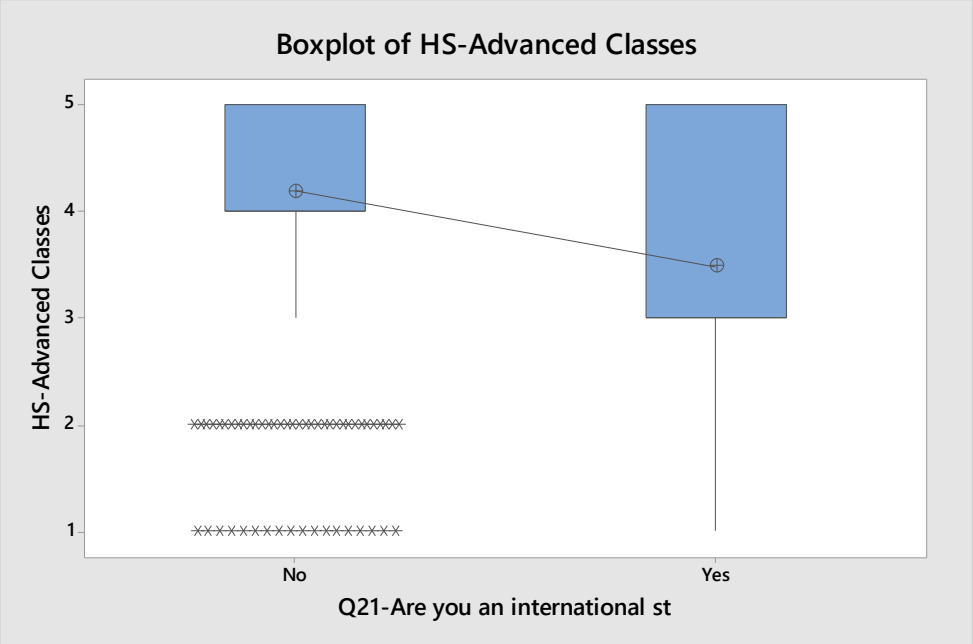
Difference	95% CI for Difference
0.703	(0.228, 1.178)

Test

Null hypothesis $H_0: \mu_1 - \mu_2 = 0$
Alternative hypothesis $H_1: \mu_1 - \mu_2 \neq 0$

T-Value	DF	P-Value
3.04	27	0.005

Boxplot of HS-Advanced Classes



Two-Sample T-Test and CI: HS-Extra-Curriculars, Q21-Are ... national st

Method

μ_1: mean of HS-Extra-Curriculars when Q21-Are you an international st = No
μ_2: mean of HS-Extra-Curriculars when Q21-Are you an international st = Yes
Difference: $\mu_1 - \mu_2$

Equal variances are not assumed for this analysis.

Descriptive Statistics: HS-Extra-Curriculars

Q21-Are you an international st	N	Mean	StDev	SE Mean
No	798	4.11	1.00	0.036
Yes	27	3.33	1.18	0.23

Estimation for Difference

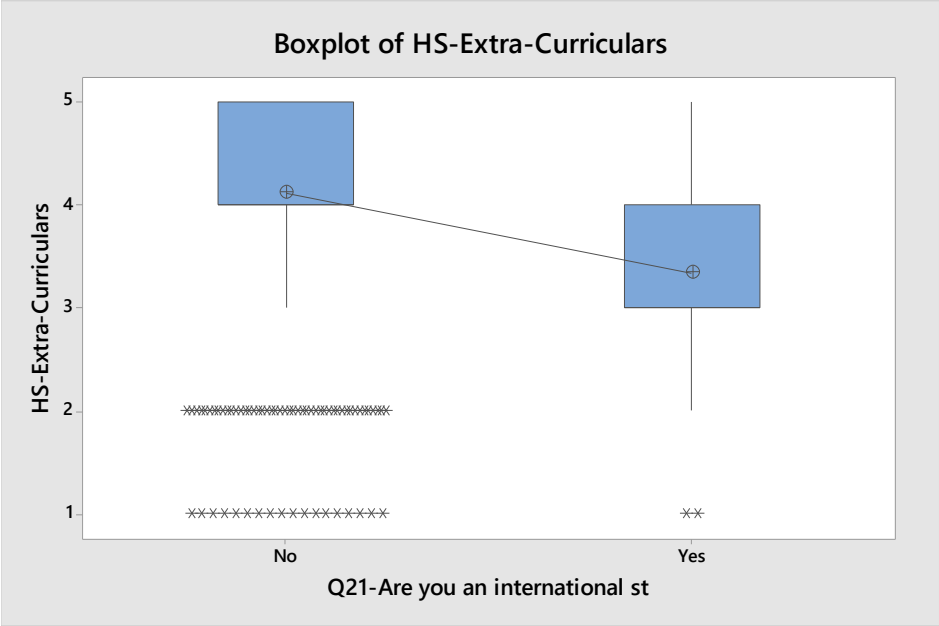
Difference	95% CI for Difference
0.776	(0.305, 1.246)

Test

Null hypothesis $H_0: \mu_1 - \mu_2 = 0$
Alternative hypothesis $H_1: \mu_1 - \mu_2 \neq 0$

T-Value	DF	P-Value
3.38	27	0.002

Boxplot of HS-Extra-Curriculars



Two-Sample T-Test and CI: HS-Being a Leader Among ... ternational st

Method

μ_1: mean of HS-Being a Leader Among Peers when Q21-Are you an international st = No
μ_2: mean of HS-Being a Leader Among Peers when Q21-Are you an international st = Yes
Difference: $\mu_1 - \mu_2$

Equal variances are not assumed for this analysis.

Descriptive Statistics: HS-Being a Leader Among Peers

Q21-Are you an international st	N	Mean	StDev	SE Mean
No	797	3.74	1.16	0.041
Yes	27	3.19	1.08	0.21

Estimation for Difference

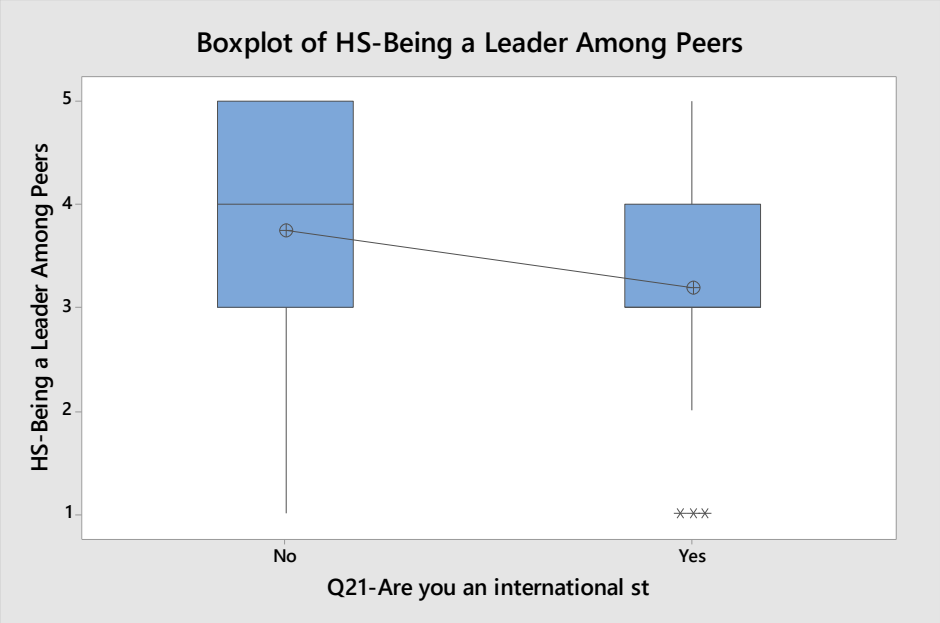
Difference	95% CI for Difference
0.551	(0.119, 0.984)

Test

Null hypothesis H_0: $\mu_1 - \mu_2 = 0$
Alternative hypothesis H_1: $\mu_1 - \mu_2 \neq 0$

T-Value	DF	P-Value
2.61	28	0.014

Boxplot of HS-Being a Leader Among Peers



Two-Sample T-Test and CI: OSU-How important is being ... national st

Method

μ_1: mean of OSU-How important is being invo when Q21-Are you an international st = No
μ_2: mean of OSU-How important is being invo when Q21-Are you an international st = Yes
Difference: $\mu_1 - \mu_2$

Equal variances are not assumed for this analysis.

Descriptive Statistics: OSU-How important is being invo

Q21-Are you an international st	N	Mean	StDev	SE Mean
No	798	3.54	1.09	0.039
Yes	27	3.52	1.09	0.21

Estimation for Difference

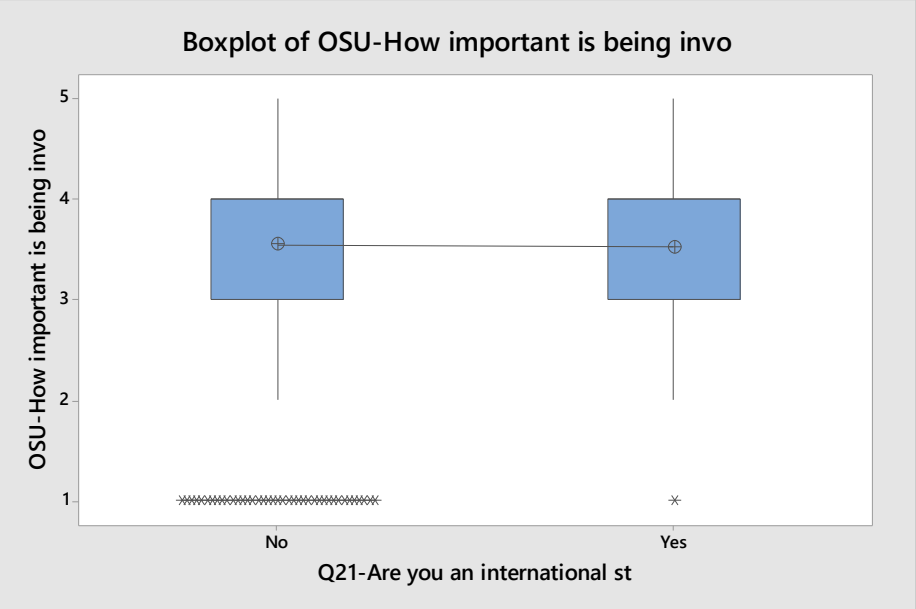
Difference	95% CI for Difference
0.022	(-0.415, 0.458)

Test

Null hypothesis $H_0: \mu_1 - \mu_2 = 0$
Alternative hypothesis $H_1: \mu_1 - \mu_2 \neq 0$

T-Value	DF	P-Value
0.10	27	0.920

Boxplot of OSU-How important is being invo



Two-Sample T-Test and CI: OSU-How important to ... international st

Method

μ_1: mean of OSU-How important to companies when Q21-Are you an international st = No
μ_2: mean of OSU-How important to companies when Q21-Are you an international st = Yes
Difference: $\mu_1 - \mu_2$

Equal variances are not assumed for this analysis.

Descriptive Statistics: OSU-How important to companies

Q21-Are you an international st	N	Mean	StDev	SE Mean
No	798	4.188	0.837	0.030
Yes	27	4.185	0.879	0.17

Estimation for Difference

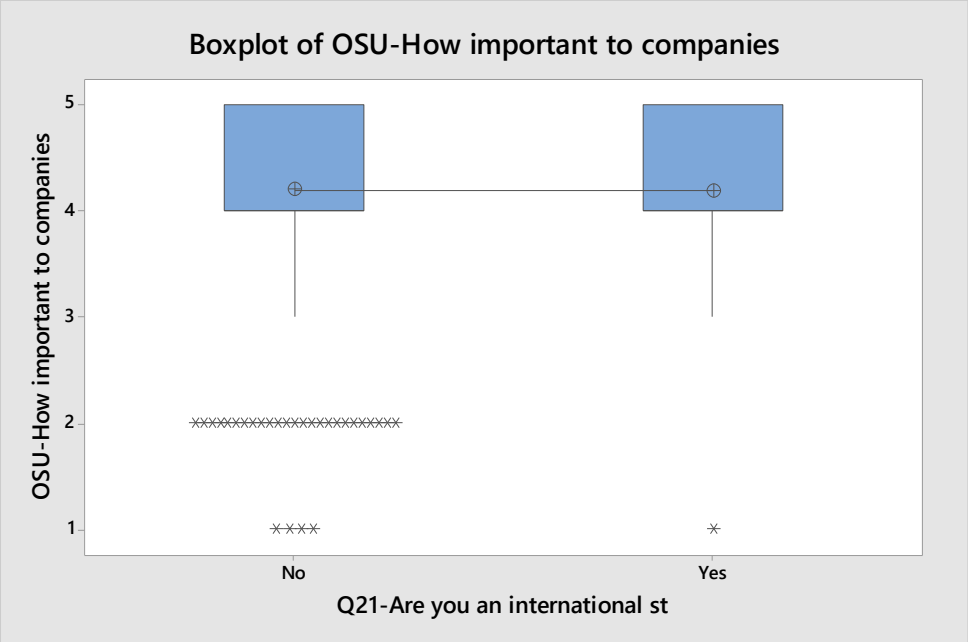
Difference	95% CI for Difference
0.003	(-0.349, 0.355)

Test

Null hypothesis $H_0: \mu_1 - \mu_2 = 0$
Alternative hypothesis $H_1: \mu_1 - \mu_2 \neq 0$

T-Value	DF	P-Value
0.02	27	0.987

Boxplot of OSU-How important to companies



Two-Sample T-Test and CI: OSU-High GPA, Q21-Are you ... rnational st

Method

μ_1: mean of OSU-High GPA when Q21-Are you an international st = No
μ_2: mean of OSU-High GPA when Q21-Are you an international st = Yes
Difference: $\mu_1 - \mu_2$

Equal variances are not assumed for this analysis.

Descriptive Statistics: OSU-High GPA

Q21-Are you an international st	N	Mean	StDev	SE Mean
No	797	4.425	0.724	0.026
Yes	27	4.259	0.859	0.17

Estimation for Difference

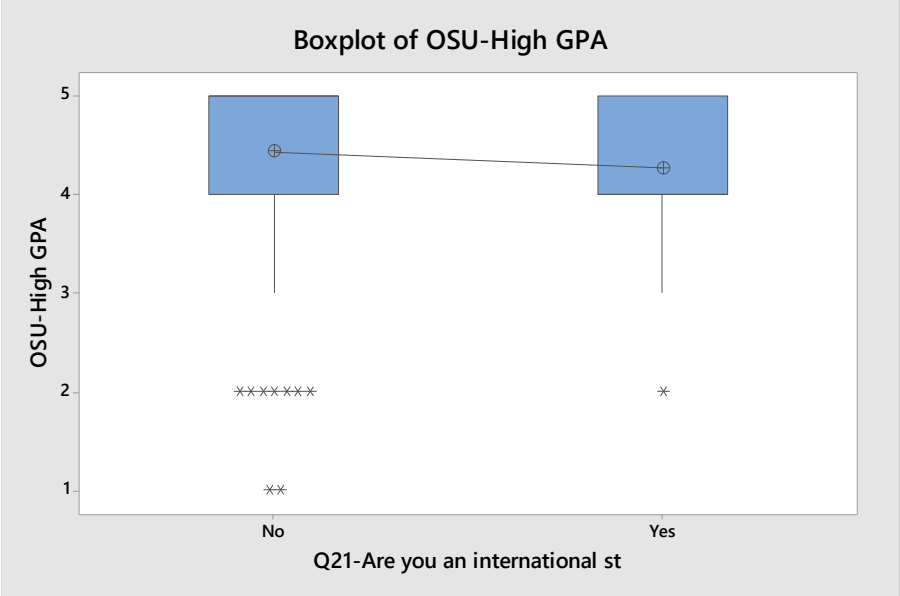
Difference	95% CI for Difference
0.166	(-0.177, 0.509)

Test

Null hypothesis $H_0: \mu_1 - \mu_2 = 0$
Alternative hypothesis $H_1: \mu_1 - \mu_2 \neq 0$

T-Value	DF	P-Value
0.99	27	0.330

Boxplot of OSU-High GPA



Two-Sample T-Test and CI: OSU-Making New Friends, ... ternational st

Method

μ_1: mean of OSU-Making New Friends when Q21-Are you an international st = No
μ_2: mean of OSU-Making New Friends when Q21-Are you an international st = Yes
Difference: $\mu_1 - \mu_2$

Equal variances are not assumed for this analysis.

Descriptive Statistics: OSU-Making New Friends

Q21-Are you an international st	N	Mean	StDev	SE Mean
No	795	4.111	0.950	0.034
Yes	27	3.852	0.770	0.15

Estimation for Difference

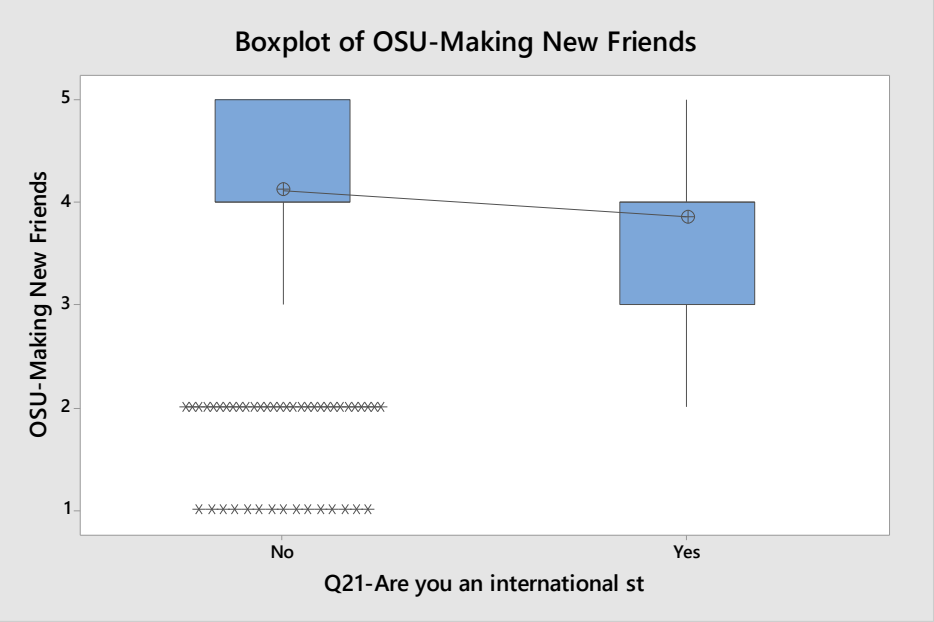
Difference	95% CI for Difference
0.259	(-0.052, 0.570)

Test

Null hypothesis $H_0: \mu_1 - \mu_2 = 0$
Alternative hypothesis $H_1: \mu_1 - \mu_2 \neq 0$

T-Value	DF	P-Value
1.70	28	0.100

Boxplot of OSU-Making New Friends



Two-Sample T-Test and CI: OSU Becoming Involved, ... international st

Method

μ_1: mean of OSU Becoming Involved when Q21-Are you an international st = No
μ_2: mean of OSU Becoming Involved when Q21-Are you an international st = Yes
Difference: $\mu_1 - \mu_2$

Equal variances are not assumed for this analysis.

Descriptive Statistics: OSU Becoming Involved

Q21-Are you an international st	N	Mean	StDev	SE Mean
No	797	3.78	1.03	0.037
Yes	27	3.81	1.21	0.23

Estimation for Difference

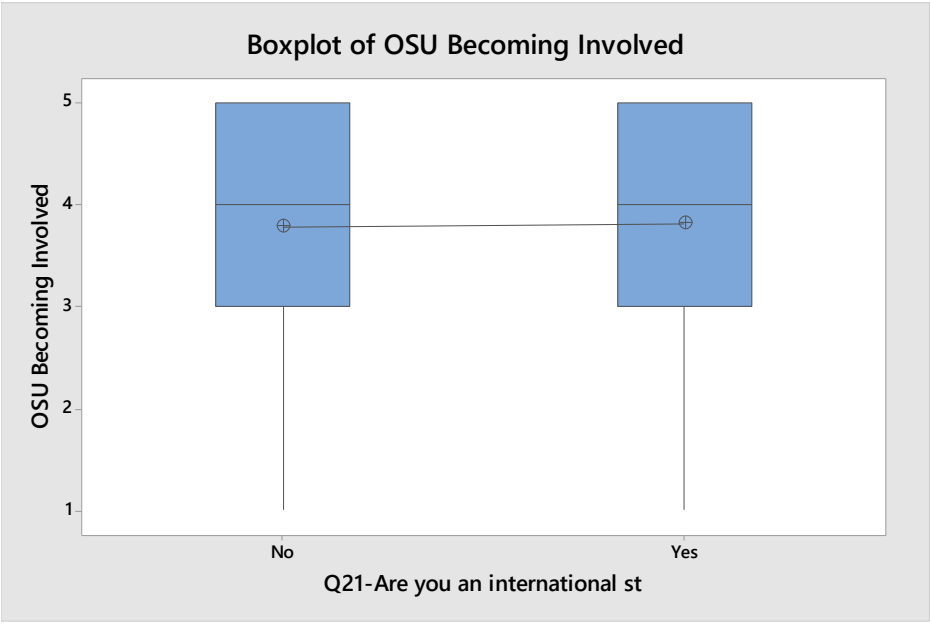
Difference	95% CI for Difference
-0.033	(-0.517, 0.451)

Test

Null hypothesis $H_0: \mu_1 - \mu_2 = 0$
Alternative hypothesis $H_1: \mu_1 - \mu_2 \neq 0$

T-Value	DF	P-Value
-0.14	27	0.889

Boxplot of OSU Becoming Involved



Two-Sample T-Test and CI: OSU-Being a Leader, Q21-Are ... national st

Method

μ_1: mean of OSU-Being a Leader when Q21-Are you an international st = No
μ_2: mean of OSU-Being a Leader when Q21-Are you an international st = Yes
Difference: $\mu_1 - \mu_2$

Equal variances are not assumed for this analysis.

Descriptive Statistics: OSU-Being a Leader

Q21-Are you an international st	N	Mean	StDev	SE Mean
No	794	3.55	1.14	0.040
Yes	27	3.63	1.11	0.21

Estimation for Difference

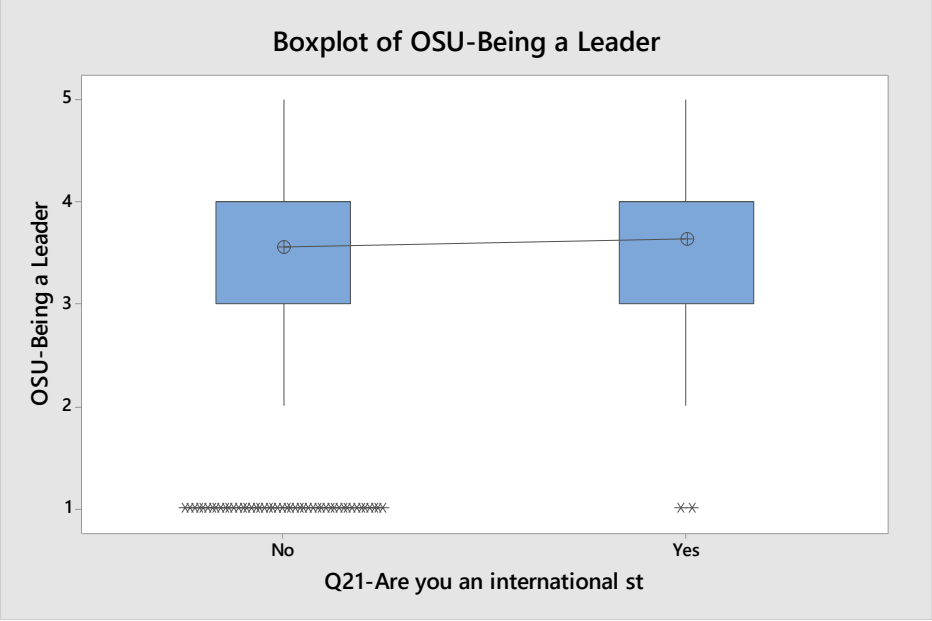
Difference	95% CI for Difference
-0.083	(-0.531, 0.365)

Test

Null hypothesis $H_0: \mu_1 - \mu_2 = 0$
Alternative hypothesis $H_1: \mu_1 - \mu_2 \neq 0$

T-Value	DF	P-Value
-0.38	27	0.707

Boxplot of OSU-Being a Leader



International Student Paired T-Test: High School vs. College Involvement

Paired T-Test and CI: Q6-How important was your invol, ... ng Involved

Descriptive Statistics

Sample	N	Mean	StDev	SE Mean
Q6-How important was your invol	27	3.148	1.134	0.218
OSU Becoming Involved	27	3.815	1.210	0.233

Estimation for Paired Difference

Mean	StDev	SE Mean	95% CI for μ_difference
-0.667	1.359	0.261	(-1.204, -0.129)

μ_difference: mean of (Q6-How important was your invol - OSU Becoming Involved)

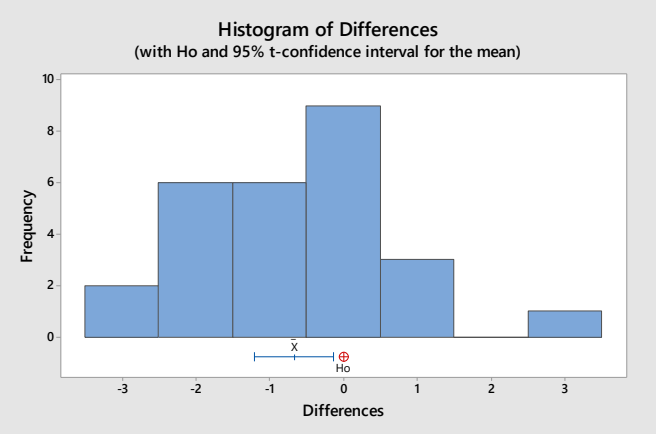
Test

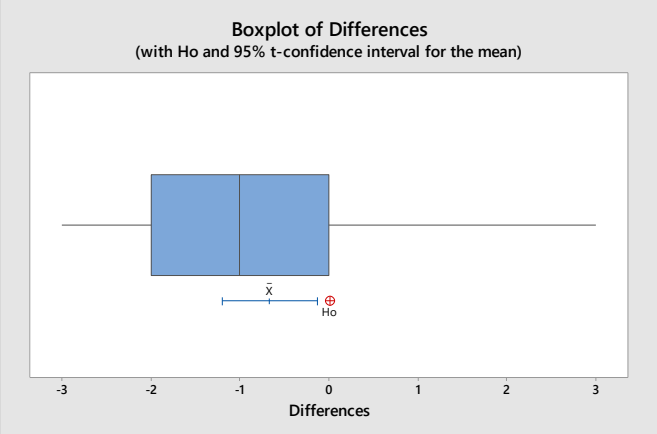
Null hypothesis	H_0: μ_difference = 0
Alternative hypothesis	H_1: μ_difference ≠ 0

T-Value	P-Value
-2.55	0.017

Histogram of Differences

Boxplot of Differences





Paired T-Test and CI: HS-Being a Leader Among Peers, ... ing a Leader

Descriptive Statistics

Sample	N	Mean	StDev	SE Mean
HS-Being a Leader Among Peers	27	3.185	1.075	0.207
OSU-Being a Leader	27	3.630	1.115	0.214

Estimation for Paired Difference

Mean	StDev	SE Mean	95% CI for μ_difference
-0.444	0.934	0.180	(-0.814, -0.075)

μ_difference: mean of (HS-Being a Leader Among Peers - OSU-Being a Leader)

Test

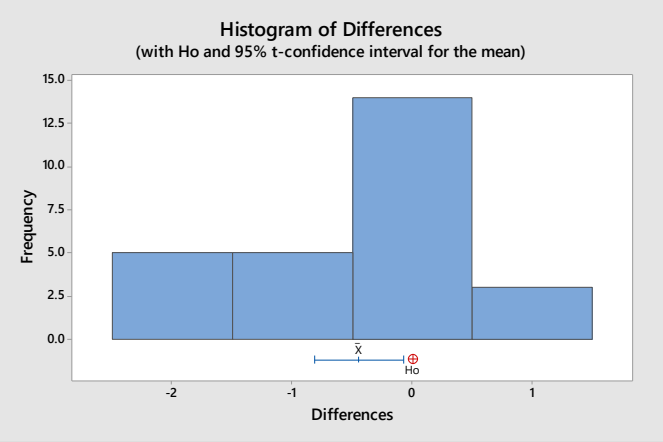
Null hypothesis H_0: μ_difference = 0

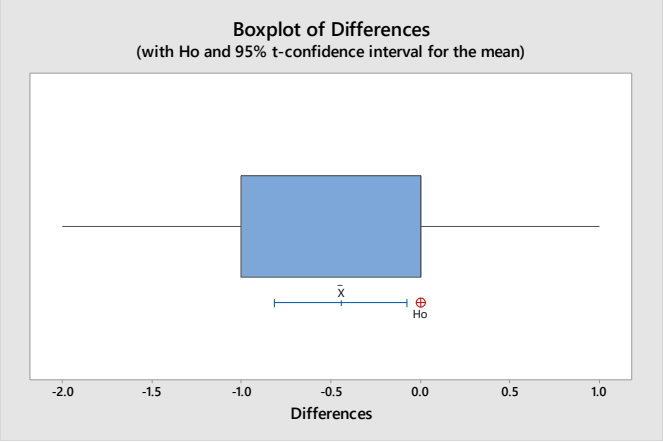
Alternative hypothesis H_1: μ_difference ≠ 0

T-Value	P-Value
-2.47	0.020

Histogram of Differences

Boxplot of Differences





Domestic Student Paired T-Test: High School vs. College Involvement

Paired T-Test and CI: DOM-HS-How important was your ... g Involved

Descriptive Statistics

Sample	N	Mean	StDev	SE Mean
DOM-HS-How important was your i	797	3.9799	1.0678	0.0378
Dom-OSU Becoming Involved	797	3.7817	1.0322	0.0366

Estimation for Paired Difference

Mean	StDev	SE Mean	95% CI for μ_difference
0.1982	1.2353	0.0438	(0.1124, 0.2841)

μ_difference: mean of (DOM-HS-How important was your i - Dom-OSU Becoming Involved)

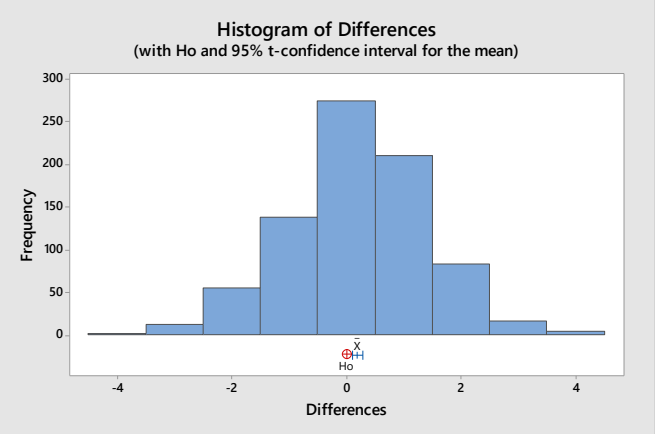
Test

Null hypothesis	H_0: μ_difference = 0
Alternative hypothesis	H_1: μ_difference ≠ 0

T-Value	P-Value
4.53	0.000

Histogram of Differences

Boxplot of Differences



Domestic Student Paired T-Test: High School vs. College Leadership

Paired T-Test and CI: DOM-HS-Being a Leader Among ... eing a Leader

Descriptive Statistics

Sample	N	Mean	StDev	SE Mean
DOM-HS-Being a Leader Among Pee	793	3.7339	1.1617	0.0413
Dom- OSU-Being a Leader	793	3.5498	1.1350	0.0403

Estimation for Paired Difference

Mean	StDev	SE Mean	95% CI for μ_difference
0.1841	1.2386	0.0440	(0.0978, 0.2705)

μ_difference: mean of (DOM-HS-Being a Leader Among Pee - Dom- OSU-Being a Leader)

Test

Null hypothesis	H_0: μ_difference = 0
Alternative hypothesis	H_1: μ_difference ≠ 0

T-Value	P-Value
4.19	0.000

Histogram of Differences

Boxplot of Differences